

**IN THE CLAIMS:**

Claims 1 - 35 (Canceled)

36. (New) A method of producing a positive electrode active material for a non-aqueous electrolyte cell, comprising the sequential steps of:

(1) mixing ingredients of a lithium composite manganese oxide;

(2) molding the mixture of said ingredients of a lithium composite manganese oxide under pressure; and

(3) sintering the molded mixture at a temperature not lower than 600°C and not higher than 850°C, wherein the lithium composite manganese oxide has a spinel structure and is expressed by a general formula  $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$ , wherein  $0.90 \leq x \leq 1.4$ ;  $0 \leq y \leq 0.30$ ; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al.

37. (New) The method of producing a positive electrode active material according to claim 36, further comprising pulverizing the sintered mixture.

38. (New) The method of producing a positive electrode active material according to claim 36, wherein said lithium composite manganese oxide is in the form of an aggregate having a primary particle diameter of not less than 0.05  $\mu\text{m}$  and not greater than 10  $\mu\text{m}$ , and having a specific surface area measured by the BET method of not less than 0.2  $\text{m}^2/\text{g}$  and not greater than 2  $\text{m}^2/\text{g}$ .

39. (New) The method of producing a positive electrode active material according to claim 36, wherein said non-aqueous electrolyte cell comprises a positive electrode having a collector and a positive electrode material thereon, the positive electrode material comprising said lithium composite manganese oxide.

40. (New) A method of producing a positive electrode for a non-aqueous electrolyte cell, comprising the sequential steps of:

(1) mixing ingredients of a lithium composite manganese oxide;

(2) molding the mixture of said ingredients of said lithium composite manganese oxide under pressure;

(3) sintering the molded mixture at a temperature not lower than 600°C and not higher than 850°C;

(4) mixing the sintered mixture and at least a binder to obtain a positive electrode composite agent; and

(5) applying said positive electrode composite agent on a positive electrode collector wherein said lithium composite manganese oxide has a spinel structure and is expressed by a general formula  $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$ , wherein  $0.90 \leq x \leq 1.4$ ;  $0 \leq y \leq 0.30$ ; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al.

41. (New) The method of producing a positive electrode according to claim 40, further comprising mixing a conductive agent in addition to the binder with the sintered mixture to obtain said positive electrode composite agent.

42. (New) The method of producing a positive electrode according to claim 40, wherein said positive electrode composite agent is applied in the form of a slurry on said positive electrode collector and dried to obtain a positive electrode.

43. (New) A positive electrode active material for a non-aqueous electrolyte cell comprising:

a lithium composite manganese oxide having a spinel structure and expressed by a general formula  $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$ , wherein  $0.90 \leq x \leq 1.4$ ;  $0 \leq y \leq 0.30$ ; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al;

said lithium composite manganese oxide is produced by a method comprising the sequential steps of:

(1) mixing ingredients of a lithium composite manganese oxide;

(2) molding the mixture of said ingredients of a lithium composite manganese oxide under pressure; and

(3) sintering the molded mixture at a temperature not lower than 600°C and not higher than 850°C.

44. (New) The positive electrode active material for a non-aqueous electrolyte cell according to claim 43, wherein

said lithium composite manganese oxide is in the form of an aggregate having a primary particle diameter of not less than 0.05  $\mu\text{m}$  and not greater than 10  $\mu\text{m}$ , and having a specific surface area measured by the BET method of not less than 0.2  $\text{m}^2/\text{g}$  and not greater than 2  $\text{m}^2/\text{g}$ .

45. (New) A positive electrode active material for a non-aqueous electrolyte cell comprising a lithium composite manganese oxide having a spinel structure and expressed by a general formula  $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$ , wherein  $0.90 \leq x \leq 1.4$ ;  $0 \leq y \leq 0.30$ ; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al;

said lithium composite manganese oxide is in the form of an aggregate having a primary particle diameter of not less than 0.05  $\mu\text{m}$  and not greater than 10  $\mu\text{m}$ , and having a specific surface area measured by the BET method of not less than 0.2  $\text{m}^2/\text{g}$  and not greater than 2  $\text{m}^2/\text{g}$ .

46. (New) A positive electrode for a non-aqueous electrolyte cell comprising a positive electrode collector and a positive electrode active material thereon, wherein:

said positive electrode active material for a non-aqueous electrolyte cell comprises a lithium composite manganese oxide having a spinel structure and expressed by a general formula  $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$ , wherein  $0.90 \leq x \leq 1.4$ ;  $0 \leq y \leq 0.30$ ; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al;

said lithium composite manganese oxide is produced by a method comprising the sequential steps of:

- (1) mixing ingredients of a lithium composite manganese oxide;
- (2) molding the mixture of said ingredients of a lithium composite manganese oxide under pressure; and
- (3) sintering the molded mixture at a temperature not lower than 600°C and not higher than 850°C.

47. (New) The positive electrode for a non-aqueous electrolyte cell according to claim 46, wherein said lithium composite manganese oxide is in the form of an aggregate having a

primary particle diameter of not less than 0.05  $\mu\text{m}$  and not greater than 10  $\mu\text{m}$ , and having a specific surface area measured by the BET method of not less than 0.2  $\text{m}^2/\text{g}$  and not greater than 2  $\text{m}^2/\text{g}$ .

48. (New) A positive electrode for a non-aqueous electrolyte cell comprising a positive electrode collector and a positive electrode active material applied on said positive electrode collector, wherein:

said positive electrode active material for a non-aqueous electrolyte cell comprises a lithium composite manganese oxide having a spinel structure and expressed by a general formula  $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$ , wherein  $0.90 \leq x \leq 1.4$ ;  $0 \leq y \leq 0.30$ ; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al; and

said lithium composite manganese oxide is in the form of an aggregate having a primary particle diameter of not less than 0.05  $\mu\text{m}$  and not greater than 10  $\mu\text{m}$ , and having a specific surface area measured by the BET method of not less than 0.2  $\text{m}^2/\text{g}$  and not greater than 2  $\text{m}^2/\text{g}$ .